

THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1. (Previously presented) A projection tube comprising a panel which forms a phosphor screen on an inner surface thereof, a funnel, a neck portion and a stem portion which seals the neck portion, wherein

the neck portion includes a first neck portion which constitutes a portion connected to the funnel portion and has a first outer diameter of the neck portion, and a second neck portion which constitutes a portion which accommodates an electron gun having a focus electrode and an anode electrode and has a second outer diameter of the neck portion,

the first outer diameter of the neck portion is set smaller than the second outer diameter of the neck portion,

the electron gun emits a single electron beam to the phosphor screen,

the focus electrode and the anode electrode are disposed within the second neck portion,

and

a maximum operating voltage of the electron gun is set to equal to or more than 25 kV.

2. (Original) A projection tube according to claim 1, wherein the maximum operating voltage is set to equal to more than 30 kV.

3. (Original) A projection tube according to claim 1, wherein the maximum cathode current is set to equal to or more than 4mA.

4. (Previously presented) A projection tube according to claim 1, wherein the first outer diameter of the neck portion is set to equal to or less than 29.1 mm.

5. (Previously presented) A projection tube according to any one of preceding claims 1 and 4, wherein the second outer diameter of the neck portion is set to equal to or more than 36.5 mm.

6. (Previously presented) A projection tube according to claim 1, wherein the first outer diameter of the neck portion is set to 29.1 mm and the second outer diameter of the neck portion is set to 36.5 mm.

7. (Original) A projection tube according to claim 5, wherein the stem portion includes a plurality of pins for supplying voltages to electrodes of the electron gun and the plurality of pins are arranged in a circle having the diameter of 15.12 mm.

8. (Previously presented) A projection tube comprising a panel which forms a phosphor screen on an inner surface thereof, a funnel, a neck portion and a stem portion which seals the neck portion, wherein

the neck portion includes a first neck portion which constitutes a portion connected to the funnel portion and has a first outer diameter of the neck portion, and a second neck portion which constitutes a portion which accommodates an electron gun having a focus electrode and an anode electrode and has a second outer diameter of the neck portion,

the first outer diameter of the neck portion is set smaller than the second outer diameter of the neck portion,

the electron gun emits a single electron beam to the phosphor screen,

a maximum operating voltage of the electron gun is set to equal to or more than 25 kV,
and

a deflection yoke which deflects the electron beam is mounted on the first neck portion having the first neck outer diameter.

9. (Previously presented) A projection tube according to claim 8, wherein the projection tube includes a convergence yoke which adjusts the convergence when the projection tube is incorporated into a projector, and

the convergence yoke is mounted on the second neck portion having the second outer diameter of the neck portion.

10. (Previously presented) A projection tube according to claim 8, wherein the first outer diameter of the neck portion is set to equal to or less than 29.1 mm.

11. (Previously presented) A projection tube according to any one of claim 8 and claim 10, wherein the second outer diameter of the neck portion is set to equal to or more than 36.5 mm.

12. (Previously presented) A projection tube according to claim 8, wherein the first outer diameter of the neck portion is set to 29.1 mm and the second outer diameter of the neck portion is set to 36.5 mm.

13. (Original) A projection tube according to claim 11, wherein the stem portion includes a plurality of pins for supplying voltages to electrodes of the electron gun and a plurality of said pins are arranged in a circle having the diameter of 15.12 mm.